



Original Research Article

Effectiveness of Panchagavya-Based Therapy in the Management of Thyroid Disorders among Indian Womens

Article History:

Name of Author:

Dr Gulappa Devagappanavar¹, Dr. Krishnapriya C P², Dr Rekha S Sonavane³, Dr Ramesh Mayyappanavar³, Dr D P Ramesh⁴, Dr Niranjana B Poojar⁵ and Dr Satish B Bhalkhed⁶

Affiliation: ¹Assistant Professor at School of Public Health, KLE Academy of Higher Education and Research, Belagavi

²Master of Public Health Student, Dept. of Public Health, Mahatma Gandhi Rural Development and Panchayat Raj University, Gadag

³Professor and Associate Professor, Dept. of Community Medicine, K H Patil Institute of Medical Sciences, Gadag

⁴Consultant Ayurveda Panchagavya Specialty Health Care and Research Centre, Bangalore

⁵Assistant Professor at Central University of Karnataka

⁶Assistant Professor at Dept. of Swasthavritta & Yoga, Dr Vasanth Parikh Ayurvedic Medical College, Gujarat

Corresponding Author:

Dr. Gulappa Devagappanavar

Received: 01-12-2025

Revised: 21-12-2025

Accepted: 21-12-2025

Published: 26-12-2025

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Noncommercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Abstract: Background: Thyroid health is a global priority because these butterfly shaped glands regulate the essential hormones required for growth and metabolic development. Dysthyroidism, predominantly categorized as hypothyroidism or hyperthyroidism, is typically driven by localized glandular pathology. Panchagavya, a centuries-old Ayurvedic therapeutic formulation, is used in India to treat various chronic conditions in humans and animals. Consequently, this study sought to evaluate the clinical effectiveness of this approach in patients with hyperthyroidism and hypothyroidism. **Materials and Methods:** A pre-experimental, one-group pre-test/post-test study was conducted in the Gadag district, targeting patients with thyroid dysfunction. Using a purposive sampling strategy based on the consensus of Ayurveda and Panchagavya specialists, 50 participants were recruited. Data were collected using a pre-validated questionnaire, compiled in Microsoft Excel, and analyzed using frequency and percentage distributions to determine outcomes. **Results:** The study cohort comprised 50 participants aged 20–50 years, spanning both rural and urban demographics. Clinical distribution showed that 44% of the cohort presented with hyperthyroidism, whereas 56% were diagnosed with hypothyroidism. Following the intervention, a significant majority of female participants reported the restoration of regular menstrual cycles and substantial relief from chronic fatigue symptoms. **Conclusion:** The findings indicate that Panchagavya treatment provides effective symptomatic relief for patients with thyroid disorders, specifically metabolic fatigue and menstrual irregularities. Furthermore, the intervention demonstrated a high safety profile, with nearly all participants reporting the absence of adverse effects, suggesting its potential as a well-tolerated complementary therapy.

Keywords: Panchagavya, Hyperthyroidism, Hypothyroidism, Ayurveda, Cowpathy; Traditional Medicine; Effectiveness; IKS.

INTRODUCTION

Thyroid dysfunction is the second most prevalent endocrine disorder globally, affecting 300 million people worldwide and 42 million in India [1]. Recent National Family Health Survey (NFHS) data indicate

a rising domestic prevalence from 2.2% to 2.9%, with women in their reproductive years facing a three- to four-fold higher risk than men [2]. To address this burden, over 70% of India's rural population utilizes Ayurveda, a globally recognized system

valued for long-term metabolic management [3]. Within this framework, "Cowpathy" or Panchagavya therapy employs five bovine derivatives—milk, ghee, urine, dung, and curd—to leverage their unique therapeutic properties [4]. Although classical texts do not explicitly define the thyroid, conditions such as *Galaganda* and *Gandamala* offer direct symptomatic parallels, highlighting the potential of these natural resources in managing hypothyroidism [5]. Clinically, thyroid pathologies are viewed as manifestations of Agni Vaishamyata (metabolic imbalance) [6]. Hypothyroidism is categorized by *Dosha* dominance and impaired digestion (*Mandagni*), whereas hyperthyroidism is primarily attributed to *Pitta* aggravation [7]. Ayurvedic physiology emphasizes that homeostasis is maintained through the equilibrium

of *Agni*, *Tridoshas*, and *Dhatus*; the thyroid, situated in the *Kantha* (neck), is governed by these factors [8]. While hyperthyroidism lacks a precise classical name, its associated metabolic acceleration aligns it with fire-related disorders such as *Tikshnagni* or *Bhasmaka Roga*, which fundamentally disrupt systemic stability [9]. The Ministry of Science and Technology in India continues to advance the national program known as Scientific Validation and Research on Panchagavya (SVAROP). This initiative is dedicated to the rigorous scientific evaluation of bovine-derived products and specifically assesses the therapeutic efficacy of Panchagavya therapy in managing thyroid disorders among patients in the Gadag district. This research underscores the government's commitment to validating traditional interventions through modern public health standards.

MATERIALS AND METHODS

STUDY DESIGN: A pre-experimental, one-group, pre-test, and post-test study.

STUDY SETTING: The study was conducted in the Sankalpa Rural Development Society (NGO) in Kutumachagi, Gadag in Mundaragi Taluk, Gadag Taluk, and also in Gadag town. Baseline data was collected in the month of November 2022, and participants were selected for intervention and followed up on for three months.

Table 1: List of camps conducted in Gadag District

Camp conducted place	Frequency
Petalur	9
Harthi	7
Harogeri	3
Kelur	3
Lakkundi	10
Bardur	4
Gadag town	14
Total Samples	50

PARTICIPANTS: Patients with Hyperthyroidism or Hypothyroidism

INCLUSION CRITERIA:

- Patients who attended medical camps conducted by the university were included in the study.
- Patients aged 20–50 years who were ready to provide informed consent.
- No history of AIDS, cancer, inflammatory diseases, or autoimmune conditions.

EXCLUSION CRITERIA:

- Who are not willing to participate in the study and are absent during the data collection
- Those below 20 and above 50 years of age.
- Those who are critically ill, have any other disease or disorder, and are unable to respond.
- Pregnant and lactating women
- If there is a history of AIDS, cancer, inflammatory diseases, or autoimmune conditions

SOURCE OF DATA: Primary data were collected using a pretested semi-structured questionnaire.

SAMPLING DESIGN: Purposive sampling technique was used.

SAMPLE SIZE: Sample size was 50, according to Ayurvedic and Panchagavya experts' opinion, depending on the selected intervention and available time duration and resource availability.

INTERVENTION

- *Tab Gounishamalaki 1-0-1* (Before food)- (Ingredients includes Gooseberry, Turmeric)
- *Panchagavya sanjevini* CTDS 2tsp -0- 2tsp (On empty stomach and bed time)
- *Panchagavya grita* for *Nasya* -2 drops each nostrils (Ingredients - cow products)
- *Panchagavya grita* for external application to the throat region.

DRUG SOURCE: *Maa Gou* Products Pvt. Ltd. Gangapura-563130.

INVESTIGATION: Blood Investigation - Thyroid profile, Liver function test, renal function test

PILOT STUDY: A pilot study was conducted on August 16th and 21st at MGRDPRU, the school building in Nagavi and Shingataluru village of Gadag district, to assess the utility of the data collection tool prepared and to incorporate any changes required for the study.

OBSERVATIONAL PERIOD:

- Observations were made at baseline.
- Regular follow-up was performed on the 7th, 14th, 28th, 45th, 60th, 75th, 90th Day of the study period to assess the results of the intervention.

METHOD OF DATA COLLECTION: A pre-experimental one-group pre-test and post-test study was conducted to assess the effectiveness of Panchagavya treatment in hyperthyroidism and

hypothyroidism among those who attended medical camps conducted by MGRDPRU, Gadag, and Sankalpa NGO in Gadag. The study was conducted using a pretested, semi-structured questionnaire by interacting with patients after taking informed written consent from the participant.

ANALYSIS: The results are shown as frequencies and percentages after the data were entered into Microsoft Excel and analyzed in terms of frequency and percentage. The efficacy of the Panchagavya products was evaluated using appropriate statistical methods.

ETHICAL APPROVAL: Ethical clearance was obtained from the Ethical Committee of KSRDPRU, Gadag, Ref. No: RDPRU /SEP /IEC /4 /2021/3.

RESULTS:

Table 2: Distribution of Socio-demographic details of study participants

Characteristics	Variables	Frequency	Percentage
Age group(in years)	20-25	16	32%
	26-30	5	10%
	31-35	6	12%
	36-40	6	12%
	41-45	6	12%
	46-50	11	22%
Gender	Male	0	0
	Female	50	100%
	Transgender	0	0
Religion	Hindu	44	88%
	Muslim	6	12%
	Others	0	0
Level of Education	Educated	12	24%
	Primary school	10	20%
	High school	14	28%
	Graduate	2	4%
	Uneducated	12	24%
Marital Status	Married	36	72%
	Widow	2	4%
	Divorce	0	0
	Unmarried	12	24%
Occupation	Agriculture	13	26%
	Laborers	4	8%
	Housewives	12	24%
	Daily wages	14	28%
	Teacher	2	4%
	Unemployed	5	10%
Type of diet	Vegetarian	11	22%
	Mixed	39	78%
Addictions	Alcohol	0	0%
	Smoking	0	0%
	Tobacco	9	18%
	Tea/coffee	6	12%
	None	35	70%

The socio-demographic analysis of the 50-patient cohort (Table 2) revealed a study population composed exclusively of females (100%), with a bimodal age distribution peaking in the 20–25 (32 %) and 46–50 (22 %) year age brackets.

The majority of participants were Hindu (88%), married (72%), and primarily engaged in physically demanding or domestic occupations, including daily wage labor (28%), agriculture (26%), and household management (24%). Educational attainment within the group is relatively limited, as 48% are either uneducated or have completed only primary schooling. Regarding lifestyle factors, most participants maintained a mixed diet (78%) and reported no addictions (70%); however, among those with behavioral habits, tobacco use (18%) and caffeine consumption (12%) were the most prevalent (Table 2).

Table 3: Distribution of Hyperthyroidism and Hypothyroidism among study participants

Particulars	Frequency	Percentage
Hyperthyroidism	22	44
Hypothyroidism	28	56

The clinical distribution of thyroid problems within the study cohort (Table 3) reflected a predominant burden of **hypothyroidism**, affecting **56%** of the participants. Autoimmune-mediated thyroid failure and iodine-related imbalances remain highly prevalent. Conversely, **hyperthyroidism** was identified in **44%** of the sample, representing a significant secondary demographic.

Fig. no. 1: Distribution of common clinical symptoms among study participants

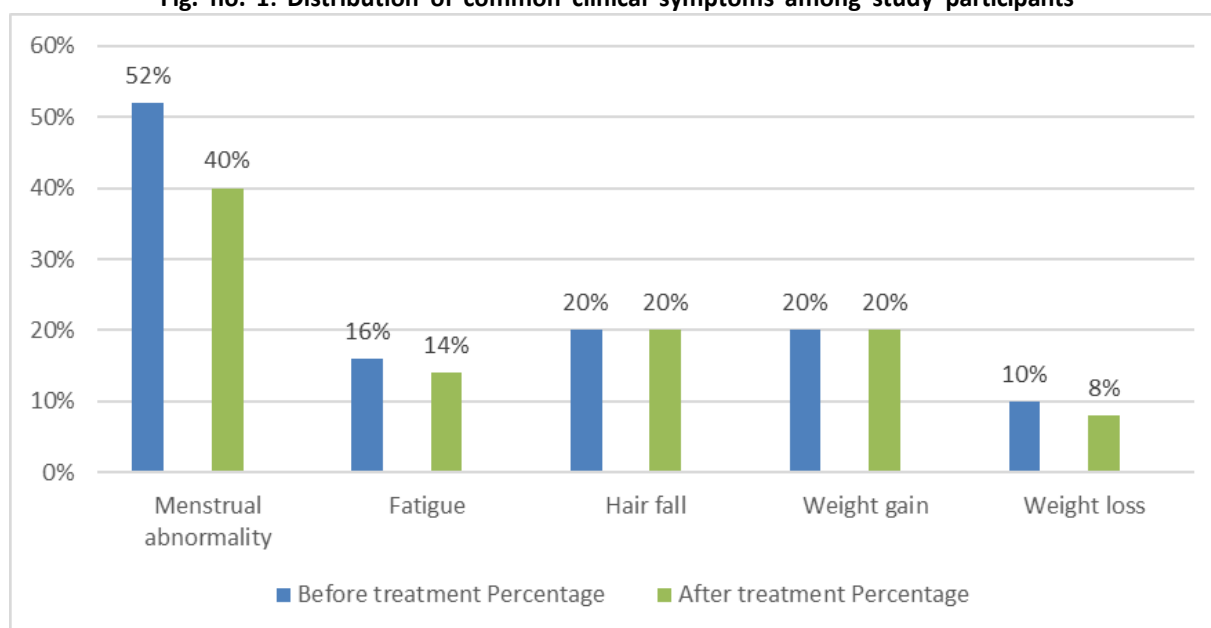


Figure 1 illustrates the comparative distribution of clinical symptoms in the study participants before and after the intervention. In the baseline assessment, menstrual abnormalities were the most prevalent clinical symptoms, affecting the majority of the cohort at 52% (n=26). Following the study intervention, the prevalence of this symptom decreased to 40%. This 12-percentage-point reduction suggests a positive clinical trend in stabilizing menstrual regularity among the participants during the study period.

Fig.No. 2 : Distribution of symptoms of Hyperthyroidism among study participants

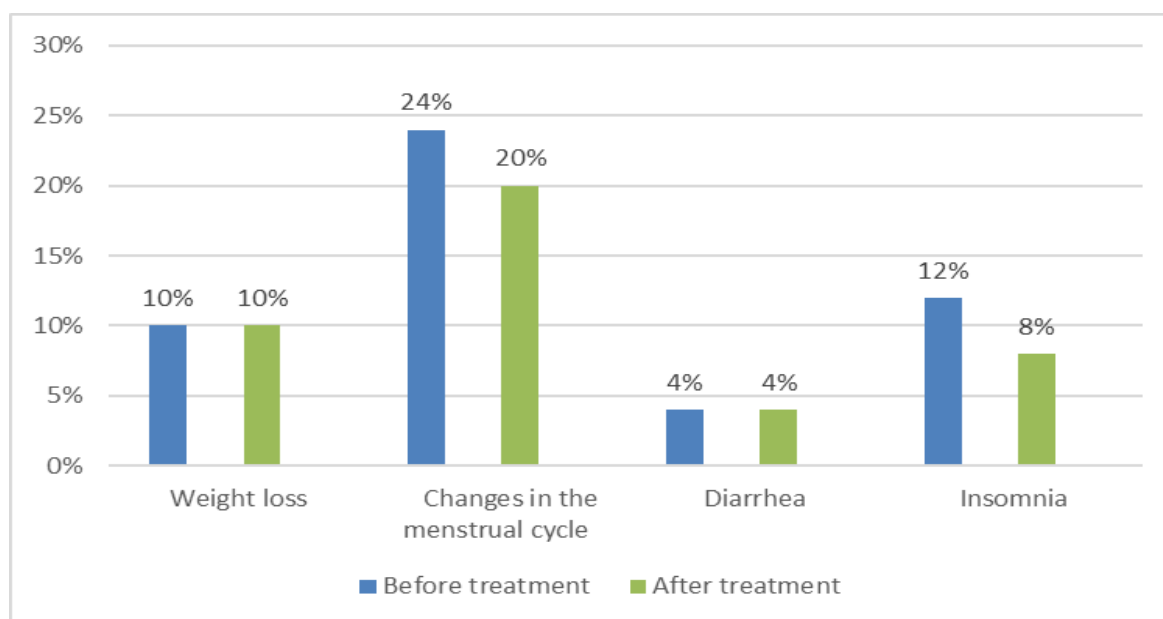


Figure 2 delineates the baseline and post-intervention distributions of hyperthyroidism-associated symptoms, revealing variable clinical responses across the study cohort. While the prevalence of weight loss (10%) and diarrhea (4%) remained stationary, suggesting that these metabolic and gastrointestinal manifestations may require a more prolonged or alternative therapeutic approach, notable symptomatic improvement was observed in menstrual cycle irregularities (24% to 20%) and insomnia (12% to 8%). These 4-percentage-point reductions indicate a favorable, albeit modest, clinical response in stabilizing neuroendocrine functions during the study period, whereas the persistence of other symptoms highlights the complexity of achieving comprehensive symptomatic remission in hyperthyroidism.

Fig. No. 3: Distribution of clinical symptoms of Hypothyroidism among study participants

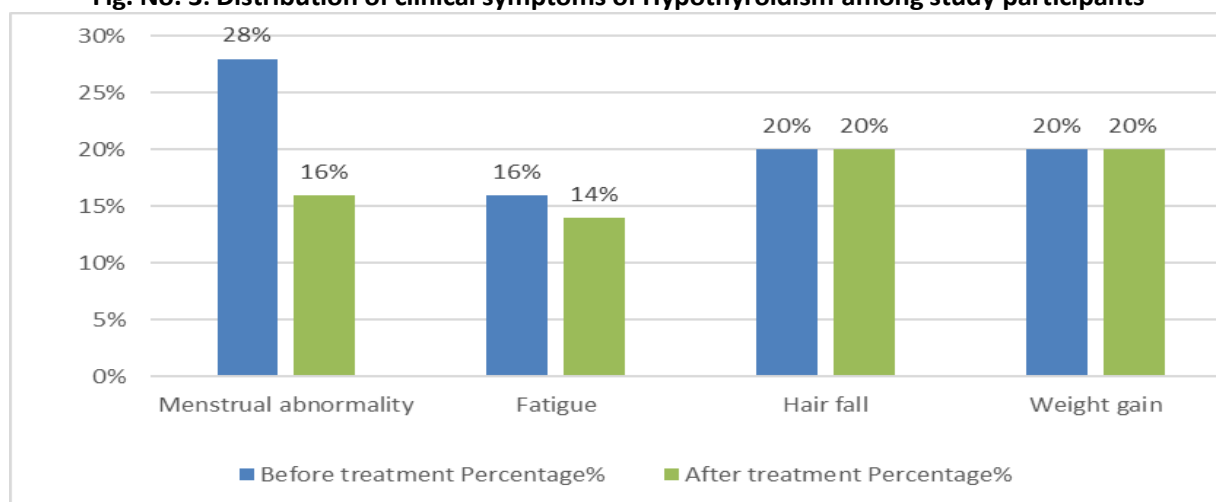
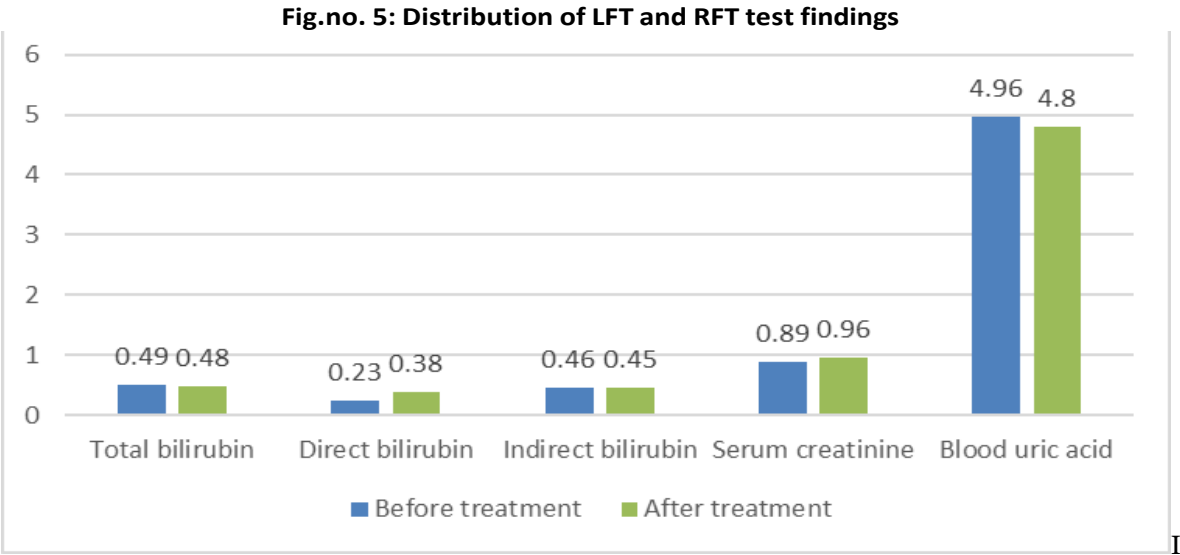
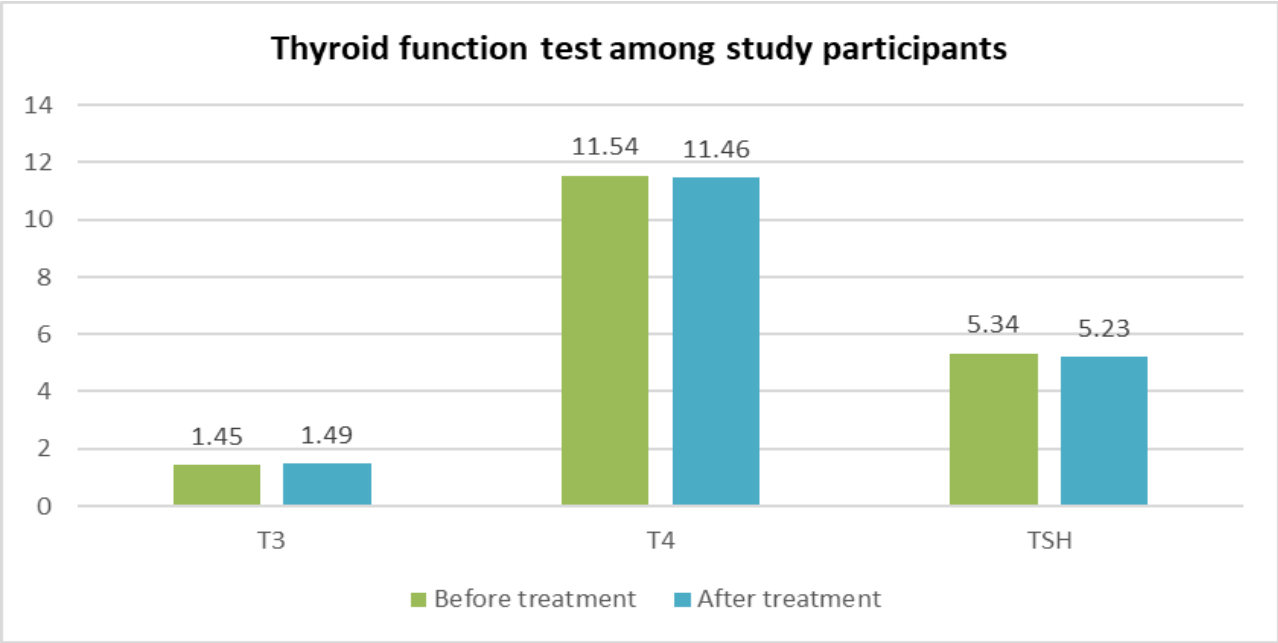


Figure 3 illustrates the comparative prevalence of hypothyroid-related clinical symptoms at baseline and after therapeutic intervention. The data demonstrated a significant clinical improvement in menstrual abnormalities, which decreased from 28% to 16%, and a slight reduction in fatigue from 16% to 14%, suggesting a positive response in hormonal regulation and metabolic energy levels. Conversely, the prevalence of hair loss (20%) and weight gain (20%) remained unchanged post-treatment, indicating that these specific integumentary and metabolic manifestations may be more refractory to short-term interventions or require a more extended period of euthyroid stability to show measurable regression. Overall, the intervention was most effective in addressing reproductive and systemic symptoms, whereas metabolic and dermatological indicators exhibited greater persistence.

Fig.no. 4 : Distribution of thyroid profile test among study participants



Figures 4 and 5 illustrate the comparative biochemical profiles of the 50 study participants, focusing on thyroid, hepatic, and renal parameters, before and after the intervention. The thyroid profile (Fig. 4) remained relatively stable, with marginal shifts in mean values: T3 increased slightly from 1.45 to 1.49, T4 decreased from 11.54 to 11.46, and TSH exhibited a minor downward trend from 5.34 to 5.23, suggesting a modest progression toward euthyroid stabilization. Regarding hepatic function (Fig. 5), total and indirect bilirubin levels remained nearly constant (0.49 to 0.48 and 0.46 to 0.45, respectively), while direct bilirubin showed an increase from 0.23 to 0.38, all remaining within the clinically acceptable range. Renal function markers (Fig. 5) also demonstrated stability, with serum creatinine levels rising slightly from 0.89 to 0.96 and blood uric acid levels decreasing from 4.96 to 4.8. Collectively, these findings indicate that the intervention was well tolerated without inducing adverse metabolic or systemic toxicity, maintaining homeostasis across primary organ systems while initiating subtle improvements in the thyroid axis.

Table 4: Wilcoxon Signed Ranks Test Results for Thyroid Function (N=50)

Parameter	Median Rank (Neg/Pos)	Z-Score	p-value (2-tailed)
-----------	-----------------------	---------	--------------------

Serum T3	18.73 / 30.38	-2.435	0.01
Serum T4	22.33 / 33.10	-4.100	<0.01*
Serum TSH	22.75 / 28.75	-1.908	0.05

The Wilcoxon Signed Ranks Test results demonstrate that the intervention significantly modulated thyroid function, yielding statistically significant shifts in Serum T3 ($p=0.01$ equals $0.01p=0.01$) and highly significant changes in Serum T4 ($p<0.01$ is less than $0.01p<0.01$), the latter exhibiting the strongest statistical deviation ($Z=-4.100$ cap Z equals negative 4.100 $Z=-4.100$). While Serum TSH remained at the threshold of significance ($p=0.05$ equals 0.05 $p=0.05$), the definitive changes in peripheral hormones (T3 and T4) suggest a meaningful physiological response that warrants further clinical evaluation to determine safety and long-term relevance. From a public health perspective, identifying traditional interventions that affect thyroid markers is critical for addressing prevalent endocrine disorders; however, these findings highlight the necessity for rigorous, large-scale validation to ensure that such treatments can be safely integrated into broader metabolic health strategies (Table 4).

DISCUSSION

Keeping an Indian breed cow at home and consuming its products could potentially help prevent several prevalent illnesses. It is usual procedure for patients to undergo *Shodhana* (purifying) therapy prior to receiving *Ayurvedic* medication. In this study, we used cow urine, which has the capacity to infiltrate any minute channel of the body. Consequently, we decided to forego the conventional *Shodhana* activity. Laboratory tests, such as LFT, RFT, and TFT, were performed, and changes were observed after the intervention. No similar studies have been conducted; therefore, there is a lack of data for comparison.

The demographic analysis of the current study revealed that the highest concentration of female participants (32%) fell within the 20–25 age bracket, with the research localized in a rural setting. These findings align with several contemporary studies that highlight the female predominance of thyroid disorders. Specifically, L. Mehran et al. (2017) observed that over half of their patient cohort (56%) consisted of females aged 20 years and older [10]. Similarly, a multi-city study across India conducted by Gopalakrishnan et al. (2017) reported that 54% of patients were females between 18 and 35 years of age [11]. Further supporting this trend, Kanzaria et al. (2017) noted a significant female majority of 88.89%, predominantly aged between 31 and 50 years. In the therapeutic phase of the present study, participants were administered *Vidanga Vati* (containing *Embelia ribes* Burm. f.) at a dosage of three tablets thrice daily post-meals with lukewarm water for eight weeks. This intervention, as noted in the related literature, yielded a statistically significant reduction in serum TSH levels and successfully alleviated nearly all clinical manifestations associated with hypothyroidism [12]. In the baseline assessment of the current study, common clinical manifestations included menstrual abnormalities (52%), weight gain (20%), hair loss (20%), fatigue (16%), and weight loss (10%). These observations correlate with the research conducted at the Central Ayurveda Research Institute for Drug Development, Kolkata, by Debajyoti et al. (2021), who noted a significant prevalence and subsequent improvement in menstrual irregularities and fatigue.

Their study successfully managed hypothyroidism using a combination of *Kanchanar Guggulu*, *Trikatu Churna*, and *Vidanga Churna*, resulting in a serum TSH reduction from 9.51 to 2.84 over three months, without adverse effects [13].

The efficacy of *Kanchanar Guggulu* is attributed to its primary components: *Kanchanar* (25%), which regulates the glandular system and reduces tissue edema through its *Grahi* (absorptive) properties, and *Guggulu* (50%), recognized in *Ayurveda* as a premier *Vata* and *Medohara* (hypolipidemic) agent. The *Lekhana* (scraping) and *Ushnavirya* (hot potency) qualities of *Guggulu* facilitate weight reduction and mitigate *Kapha* and *Medadushti*, thereby addressing thyroid glandular swelling [13].

Supporting these findings, a case study by Dr. Monisha P et al. (2022) at Shri Dharmasthala Manjunatheshwara *Ayurveda* Hospital demonstrated that *Nityananda Rasa*, *Yashtimadhu* capsules, and *Dhatri Loha* effectively reduced both thyroid profile imbalances and clinical symptoms [14]. Furthermore, Dr. Priyanka Mourya et al. (2020) highlighted that traditional *Ayurvedic* protocols—utilizing *Ama pachana* (toxin digestion), *Lekhan* (scraping), *Strotoshodhan* (channel clearing), and *Anulomana* (downward movement)—can normalize *Pitta* and *Agni* levels. Such natural interventions offer a viable alternative to lifelong synthetic hormone replacement, potentially avoiding long-term dependency and side effects [15].

Distribution of laboratory test

In the current study, participants were administered a therapeutic regimen consisting of *Tab Gounishamalaki* (1-0-1, pre-meals) and *Panchagavya Sanjevini* (2 tsp twice daily, taken on an empty stomach and at bedtime), supplemented by *Panchagavya Grita* for both *Nasya* and external application over a three-month period. Systematic monitoring through LFT, RFT, and TFT revealed stable physiological profiles; specifically, the mean T3 level shifted from 1.45 to 1.49, T4 from 11.54 to 11.46, and TSH levels decreased from 5.34 to 5.23 across the 50-participant cohort.

These findings align with several clinical reports utilizing diverse ayurvedic protocols. At the Govt. Ayurveda College, Thiruvananthapuram, Seetha Chandran et al. (2017) successfully managed Hashimoto's thyroiditis through a structured approach of Rookshana, Snehapana, and Panchakarma (Vamana and Virechana). This protocol resulted in the resolution of palpitations and pruritus, alongside an improved parenchymal echotexture on ultrasound and a TSH reduction to 10.3 mIU/L [16]. Similarly, research at Gujarat Ayurveda University by Karishma et al. (2017) demonstrated that a 45-day course of Triphaladya Guggulu and Punarnavadi Kashaya effectively alleviated classic hypothyroid symptoms, such as facial edema and lethargy, while lowering TSH levels [17]. Furthermore, Verma et al. (2022) reported a significant clinical outcome in Udaipur, where a 30-day Ayurvedic intervention led to near-total remission of symptoms and a marked TSH reduction from 13.401 to 2.820 uIU/ml [18]. Rao et al. (2021) reported that Ayur-Panchagavya-based management for primary hypothyroidism (Gomutra, Ghritha, other Panchagavya preparations plus pathya-apathya and Ayurvedic drugs) alleviated core symptoms, improved **Agni** and well-being, and favorably modulated thyroid profiles (reduced TSH, T3/T4 trending to normal) without major adverse effects, supporting its adjunct role within the Anukta Vyadhi framework[19]. Collectively, these studies underscore the efficacy of individualized Ayurvedic treatments in restoring thyroid homeostasis and improving systemic and metabolic health.

CONCLUSION

The treatment of thyroid dysfunction requires evidence-based medical approaches. Effective management of thyroid conditions typically involves consulting a qualified healthcare professional who can diagnose the specific type of thyroid issue and recommend appropriate treatments, such as medication, lifestyle changes, or other medical interventions. It is important to rely on treatments supported by scientific research and clinical trials to ensure safety and efficacy. Discussions about alternative or traditional practices should always be had with a medical professional to understand their potential benefits and risks in the context of overall health and existing medical conditions.

LIMITATIONS

- The sample size of the study was small because the study period was short.
- There is no control group

Conflict of Interest: None

Source of Funding: MGRDPR University, Gadag, India.

Clinical Trial Registration: Not Applicable

Acknowledgement

I would like to acknowledge Former Vice Chancellor Prof. Vishnukant S Chatpalli, Former Registrar Prof. B.L. Lakkanannavar, Present Vice-Chancellor(Acting) and Registrar Prof. Suresh V Nadagoudar, Finance Officer Prashanth J C, Sankalpa Rural Development Society (NGO)Kutumachagi,Gadag and all MPH scholars of Mahatma Gandhi Rural Development and Panchayat Raj University, Gadag and Dr D P Ramesh, Chief consultant and research director, Ayurveda Panchagavya speciality health clinic and research centre, Bengaluru for their support and guidance. The authors would like to thank the K H Patil Institute of Medical Sciences,Gadag, for their continuous support.

REFERENCES

1. Kalra S., A. G. Unnikrishnan, Malhotra N. Sahay. "The Global Burden of Thyroid Disease." *Thyroid Research and Practice*, vol. 10, no. 3, 2013, pp. 89–90. [ncbi.nlm.nih](https://pubmed.ncbi.nlm.nih.gov/24111111/)
2. Kuraakula, Chandrika, and Srikanth Babu Perugu. "A Comparative Clinical Study on the Efficacy of Nityanand Ras with (or) without Jeernakarkaruka Nasya in Hypothyroidism." *Journal of Ayurveda and Integrated Medical Sciences* 7, no. 11, Dec. 2022, pp. 22–30. [pmc.ncbi.nlm.nih](https://pubmed.ncbi.nlm.nih.gov/39811111/)
3. Sadiku, Matthew N. O., Tolulope J. Ashaolu, and Sarhan R. N. Musa. "Traditional Indian Medicine." *International Journal of Trend in Scientific Research and Development*, vol. 3, no. 2, 2019, pp. 321–322. [cancerregistry](https://www.cancerregistry.org/)
4. Bajaj, K. K., et al. "Panchgavya: A Precious Gift to Humankind." *Journal of Ayurveda and Integrative Medicine* 13, no. 2, 2022, article 100525, <https://doi.org/10.1016/j.jaim.2021.09.003>.
5. Gaidhani, S. N., et al. "Efficacy of Ayurvedic Interventions in Hypothyroidism: A Comprehensive Review." *Journal of Research in Ayurvedic Sciences*, vol. 3, no. 4, 2019, pp. 157–163. [pmc.ncbi.nlm.nih](https://pubmed.ncbi.nlm.nih.gov/32111111/)
6. Tamagond, Shivaganga, et al. "Critical Analysis of Etiological Factors of Thyroid Disorders in Ayurveda." *Journal of Ayurveda and Integrated Medical Sciences* 6, no. 3, 14 June 2021, pp. 144–148. [ayushdhara](https://www.ayushdhara.com/)
7. Gupta, Twinkle, and Madhu Bala. "Effective Ayurveda Therapy to Treat Thyroid Disorders." *World Journal Pharm Life Sci* 6, no. 12, 8 Nov. 2020, pp. 72–74. [ayushdhara](https://www.ayushdhara.com/)
8. Kaur, Arshvir, et al. "Hypothyroidism: Management Based on Ayurvedic and Modern Therapeutic Perspective." *International Journal of Pharmaceutics and*

- Drug Analysis 4, no. 6, 18 June 2016, pp. 281–288.[ayushdhara](#)
9. Shrestha, Sirjana. “Review of Hyperthyroidism as per Ayurveda.” *International Journal of Ayurveda and Integrative Medicine* 2, no. 1, 16 Jan. 2021, pp. 74–79.[ayushdhara](#)
10. Mehran, Ladan, et al. “Incidence of Thyroid Dysfunction Facing Metabolic Syndrome.” *European Thyroid Journal* 10, no. 5, July 2021, pp. 390–398.[pmc.ncbi.nlm.nih](#)
11. Unnikrishnan, Ambika Gopalakrishnan, Sanjay Kalra, and Rakesh Kumar Sahay. “Prevalence of Hypothyroidism in Adults: An Epidemiological Study in Eight Cities of India.” *Indian Journal of Endocrinology and Metabolism* 17, no. 4, July–Aug. 2013, pp. 647–652.[ncbi.nlm.nih](#)
12. Kanzaria, Himanshu, et al. “A Clinical Study on Hypothyroidism and Its Management with Vidanga.” *European Journal of Biomedical and Pharmaceutical Sciences*, Vol. 4, no. 11, 24 Oct. 2017, pp. 241–244.[ijacare](#)
13. Das, Debasish, et al. “Ayurvedic Approach to Management of Hypothyroidism—A Case Study.” *International Journal of Development Research*, vol. 11, no. 1, 2021, pp. 43645–43648.[ayushdhara](#)
14. Monisha, P., et al. “Ayurvedic Management of Hypothyroidism: A Case Study.” *Journal of Ayurveda and Integrated Medical Sciences*, vol. 7, no. 1, Jan.–Feb. 2022, pp. 424–426.[jaims](#)
15. Mourya, Priyanka, et al. “Review Study of Dhatwagnimandya (Hypothyroidism) and Its Ayurvedic Management.” *World Journal of Pharmaceutical Research*, vol. 9, no. 15, 2020, pp. 414–426.[ayushdhara](#)
16. Seetha, C., et al. “Management of Hashimoto’s Thyroiditis through Ayurveda.” *Journal of Ayurveda Case Reports* 1, 1, July–Sept. 2017, pp. 18–22.[ayushdhara](#)
17. Karishma, S., et al. “Efficacy of Triphaladya Guggulu and Punarnavadi Kashaya in the Management of Hypothyroidism.” *Journal of Ayurveda Case Reports*, vol. 1, no. 1, July–Sept. 2017, pp. 34–39.[ayushdhara](#)
18. Verma, Poonam, Ravi Sharma, and Ruhi Zahir. “A Case Study: Management of Hypothyroidism through Ayurveda.” *Journal of Emerging Technologies and Innovative Research*, Vol. 9, no. 9, Sept. 2022, pp. 245–248.[ijacare](#)
19. Rao, A. B., D. P. Ramesh, and K. Sonu. “Ayur-Panchagavya Therapy for Thyroid Disorders with Special Reference to Hypothyroidism—An Anukta Vyadhi.” *International Research Journal of Ayurveda and Yoga*, vol. 4, no. 10, 2021, pp. 156–165.[journals.acspublisher1](#)